

IMPLEMENTATION

Metal forming process development

Control of die cavity filling

Abrasive die wear simulation

Eliminating laps, flow-through and other material flow defects

Estimation of the deformation load and energy

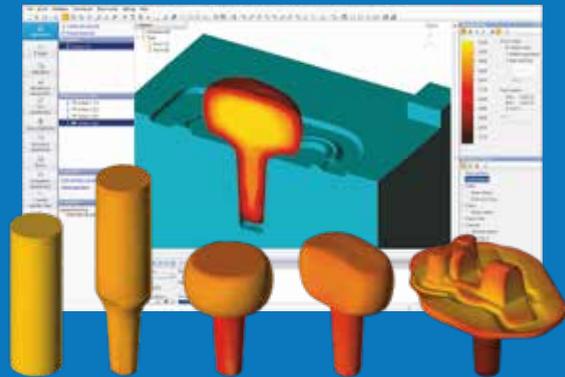
Optimization of raw material use

Die stress analysis

Carrying out scientific numerical research and experiments

Sales and marketing

Staff training



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www.qform3d.com

QFORM

SOFTWARE FOR SIMULATION AND OPTIMIZATION OF METAL FORMING PROCESSES

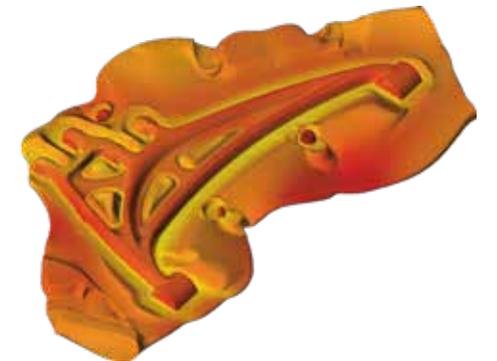
WHAT IS QFORM?

QForm is a professional engineering software for simulation, analysis and optimization of metal forming processes based on the Finite Element Method.

QForm software allows simulation of an entire technological chain at high speed and excellent reliability and provides a wide range of possibilities for process analysis.

The most important economic benefits of QForm software include:

- Decreasing production lead time
- Eliminating defects in metal forming production
- Increasing quality and improving product properties
- Reducing material consumption
- Elimination of test dies
- Reduced development time and improved efficiency

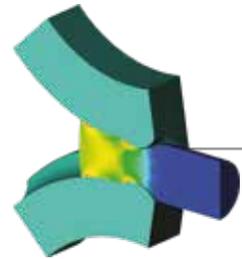
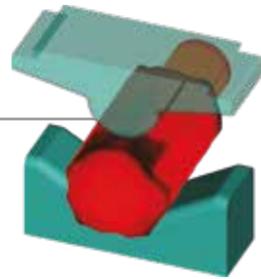


PROCESSES

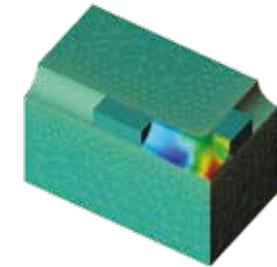
Closed die forging



Open die forging

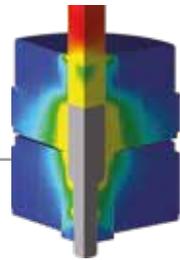


Reducer rolling

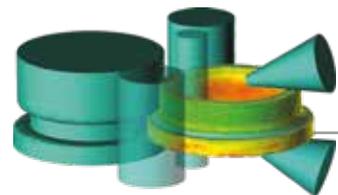
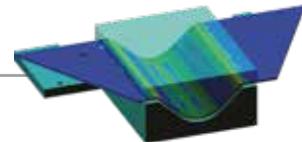


Hydroforming

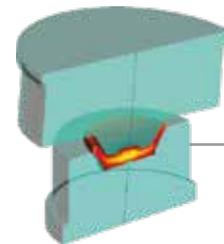
Cold forming



Bulk forming of sheet metal

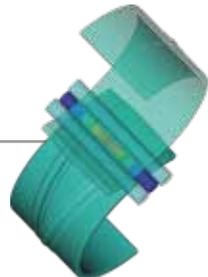


Ring rolling

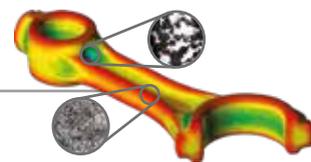


Orbital forming

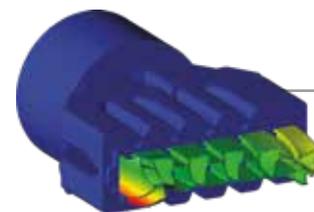
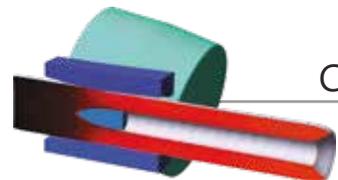
Cross-wedge rolling



Heat treatment



Cross-roll piercing



Profile extrusion

FEATURES

Automatic generation of technical reports using customized *.dotx templates

Direct automated import of *.step geometry

One-click automatic correction of most geometry defects

Process templates

Standard subroutine for prediction of flow induced defects «Gartfield»

Prediction of low cycle fatigue failure of tools

Workpiece damage analysis

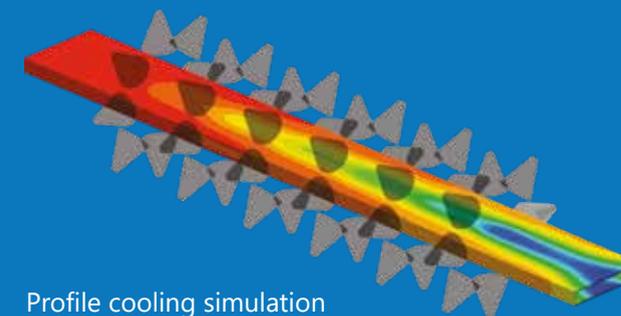
Export of simulation results in *.vrml file for coloured 3D printing

Batch mode

Cylindrical coordinates system

Variation analysis

Multiview mode



Profile cooling simulation

User friendly interface

2D & 3D simulation chain

Coupled thermal and mechanical problem

More than 1000 materials in database

Highest performance on multi-core and multi-CPU systems

Complex tool movement

Assembled pre-stressed tools

User defined subroutines

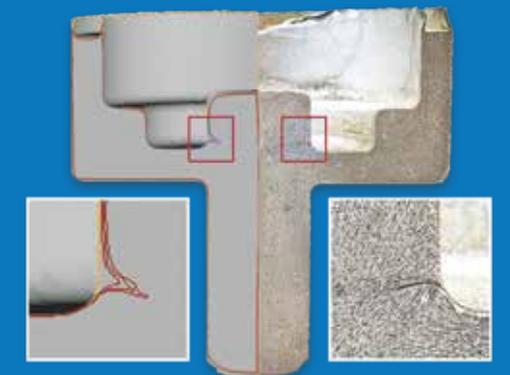
Cloud and local network client-server versions for remote simulation

Dual mesh method for all processes

Elastic-plastic simulation of the workpiece

Orthotropic material properties

New finite elements type: hexahedrons



Defect prediction